REMARKS

Applicant, his principal representatives in Germany, and the undersigned have carefully reviewed the first Office Action on the merits of February 2, 2009 in the subject U.S. patent application, together with the prior art cited and relied on in the rejections of the claims. In response, the Substitute Specification and the claims have been amended. It is believed that the claims now pending in the subject application are patentable over the prior art cited and relied on in the rejections of the claims. Reexamination and reconsideration of the application, and allowance of the claims, is respectfully requested.

As described in the Substitute Specification, as depicted in the drawings and as set forth in the currently amended claims, the subject application is directed to a device for adjusting a contact pressure between a roller and an adjacent rotatable body. As may be seen in Fig. 1, for example, the rotatable body could be one of a forme cylinder 12, a dampening fluid distribution roller 13 and/or an ink transfer roller 14. The rollers that engage one or several of these rotational bodies are provided with positional adjusting devices. These positional adjusting devices are of the type which are shown and described in applicant's prior U.S. Patent No. 6,761,112. That patent was brought to the attention of the Examiner in the Information Disclosure Statement which was filed in the subject application, concurrently with its filing.

A plurality of actuators are usable to vary the position radially of each of the several rollers which are engageable with one or more of the rotatable bodies. As is described in the '112 U.S. patent, these actuators are typically closed resilient compartments which can each be charged with a fluid under pressure. Each roller

support may have, for example, four of these closed resilient compartments about its periphery. By variation of the amount of fluid under pressure that is supplied to each of these compartments, it is possible to vary a contact pressure or force with which each of the several rollers engages its associated rotatable body.

In accordance with the present invention, a roller strip, which is defined by a circumferential width of a contact surface formed between the roller and its associated rotatable body, can be adjusted during the operation of the printing couple by the provision of a control unit for the control of the plurality of actuators that are provided in each bearing support for each roller. As described in the Substitute Specification, as paragraphs 006, the width of the roller strip can be adjusted, as needed, even when the printing couple is running in production. As is described in detail in paragraph 008 of the Substitute Specification, each of the roller strips for each of the rollers can be individually adjusted, as necessary by the operation of a suitable control unit. Because the contact pressure is adjustable, and because the width of the roller strip between each roller and its cooperating rotatable body can be adjusted, as needed, there is produced a beneficial effect on the quality of the printed product which is produced using the printing machine in what the printing couple is situated.

Each support bearing for each roller is carried in a roller mount that has a plurality of actuators interposed between the support bearing and the associated roller mount. Each of these plurality of actuators is individually controllable by the control unit. The result is that the magnitude of the width of the support strip, as well as, to some extent, its direction of application can be controlled by the press operator, through the control unit, as the printing process is ongoing.

In addition, each roller has separate support bearings at each of its first and second separate ends. This is described briefly at paragraph 006 of the Substitute Specification, and is described in more detail subsequently in the Substitute Specification at paragraph 008. The contract pressure that each roller end exerts against its respective portion of the adjustment rotatable body can also be individually controlled. This allows contact pressures exerted by each roller to be varied differently at first and second ends of the roller. This is beneficial if, for example, the rotational body with which the roller cooperates is a forme cylinder which is provided with printing plates only along a part of its longitudinal length.

The location and width of each roller strip is described in detail in paragraph 015 of the Substitute Specification and is depicted, at least schematically in Fig. 1. It is to be understood that a width of each roller strip is a chord of the flattened area of the circumferential surface of each of the rollers. This roller strip width has to be set to a specific width amount, depending on various aspects of the press, the papers, the ink the plant conditions, the weather conditions and the like. It is imperative that the roller strip widths be set to specific amounts, as is described in paragraph 016 of the Substitute Specification. It is to be noted, as set forth in paragraphs 017 of the Substitute Specification that the radial travel of each of the roller mounts may be linear or non-linear.

In the non-final Office Action of February 2, 2009, claims 87-165, 167 and 168 were withdrawn from consideration. Claim 166 and 169 were rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/07454 to Faist et al. in view of U.S. Patent No. 6,098,542 to Dufour. It is to be noted that the cited Faist et al. reference WO

02/07454 corresponds to U.S. Patent No. 6,761,112. For ease of discussion, future references to the Faist et al. reference will be directed to the '112 U.S. patent.

It was asserted in the Office Action that Faist et al. teaches a device for adjusting a contact pressure exerted by a roller on an adjacent rotational body. It was further asserted that Faist et al. shows the structure of the support bearing, the plurality of actuators and the roller mount.

The invention, which is described and claimed in the subject application, shows Bernd Klaus Faist as the sole inventor. He is also a co-inventor on the prior Faist et al. reference, U.S. Patent No. 6,761,112. It is not challenged that the structure of the device for adjusting the contact pressure in the Faist et al. reference is the same as that which is shown in the subject application.

It was admitted in the non-final Office Action that the Faist et al. reference fails to teach a control that is usable to control the actuators independently and that is remote from the actuators. The secondary reference to Dufour was cited as showing a control element 9 for controlling actuators. For the reasons to be set forth subsequently, it is believed that the combination of Faist et al. and Dufour does not render obvious the subject invention, as set forth in currently amended, independent claim 166.

The Dufour reference is directed to a method and to a device that is movable to force load a rubber blanket roller in a printing press. A rubber-surfaced roller B is supported for movement, with respect to rollers A and C by a pair of hydraulic cylinders, H A/B and H B/C. These two cylinders are able to be charged with fluid under pressure via four-way valves 4. The rubber-surfaced roller B can be moved into contact with either one of the rollers A or C and out of contact with the other roller C or A.

Alternatively, the roller B can be brought into a contact pressure with both of the rollers A and C.

A substantial difference between the prior art Dufour device and the subject invention, as recited in currently amended claim 166, is readily apparent by reviewing the discussion at the Dufour reference, as set forth at column1, lines 42-44. It is recited there that the object of Dufour is to assure"...that the rubber roller is accurately and constantly force loaded against the respective other rollers." (emphasis added). As is recited at column 2, line 33-37, the Dufour device automatically compensates for temperature changes and dynamic effects "...because the pressure of the pressurized system is directly proportional to the force loading of the rubber roller...". It is thus quite clear that the purpose of the Dufour device is to maintain a constant pressure engagement of the rubber surfaced roller B against the two adjacent rollers A and C in the face of temperature and other dynamic effects. This principle of operation of the Dufour device is reinforced by the discussion which is set forth at column 3, lines 45-50 where it is set forth that the pressure of the roller B, against one or the other or both of the rollers A and C, is automatically set to compensate for growth of the rubber-covered roller B, which growth may be caused by temperature changes, swelling of the rubber, and other dynamic effects. The result is that a specific pressure is constantly maintained by the roller B against the roller A or C or both A and C. The result of such a constant pressure maintenance is the maintenance of a strip width that is also constant. As recited in currently amended claim 166, that is not what the subject invention accomplishes.

Claim 166, as previously amended, and even more clearly as currently amended, recites that the plurality of actuators which are interposed between each separate support bearing and its associated roller mount are usable to impart an individual contact pressure against the associate end of the roller during operation of the printing machine. The circumferential width of each such roller strip can thus be changed during the operation of the printing couple, by use of the control unit. That control unit, as recited in currently amended claim 166 is adjusted to adjust and to control each of the plurality of actuators in each of the support bearings independently of additional ones of said actuators that are provided in other ones of the support.

The capability to adjust the rubber strip width of each roller, during operation of the printing couple, is not shown or suggested in the prior art cited and relied on. The teaching of the Dufour reference is clearly directed to the maintenance of an accurate and constant force loading of the rubber roller against one or the other, or both of the adjacent rollers. This is recited at column 1, lines 42-44. As is discussed at column 2, lines 33-38, temperature changes and dynamic effects are automatically compensated for in the Dufour device. The "pressure of the pressurizing system is directly proportional to the force loading of the rubber roller...". If Dufour and the prior art Faist patent were to be combined, in the manner suggested by the Examiner, the result would be a system that would operate to maintain the force which the rubber roller exerts against the adjustment roller or rollers constant. The exertion of such a constant force would result in a roller strip having a constant width. The Dufour system teaches that the pressure in the hydraulic actuator is adjustable. This is to maintain the force loading of the rubber roller against the associated roller or rollers constant. Any temperature

changes or dynamic effects which would change that contact force loading"...are automatically compensated for in the novel system" of Dufour. The result is that Dufour uses its control system to adjust hydraulic pressures in the actuators in response to temperature changes and dynamic effects which will tend to vary the contact pressure. If Dufour were to be combined with the prior art Faist reference, the result would be the use of the Dufour contact system to maintain a constant force between the roller and the adjacent rotational body.

In the Office Action, it is recited that it would be obvious to control the Faist actuators, using the Dufour control for the purpose of allowing the actuators "...to move the roller mount and compensate for changes in roller size due to heat and mositure warping". The undersigned does not disagree with this asserted combination. However, that is not what the purpose of the control unit recited in currently amended claim 166 of the subject application is for. Instead, the purpose of the subject device for adjusting contact pressure exerted by the roller against the adjacent rotational body is to <u>vary</u> the circumferential width of the roller strip. This is not the same as attempting to maintain a constant contact pressure. It is the opposite of that effect. The contact pressure has to be varied in order to vary the width of the roller strip. The Dufour control unit would try to prevent that from happening. Its purpose is diametrically opposite to the purpose of the control unit recited in currently amended claim 166.

The Examiner is requested to again review the discussion at paragraph 008 of the Substitute Specification of the subject application. The width of the roller strip can be adjusted, as needed. The adjustment of that roller strip width, during operation of the printing couple, provides a beneficial effect on the quality of the printed product that is

produced using the printing machine. The device, as recited in currently amended claim 166 is thus believed to be patentable over the Faist and Dufour combination cited and relied on by the Examiner.

Claim 169 was rejected as being obvious over the Faist and Dufour reference combination. It was asserted that Dufour provides a plurality of rollers with a designator for the contact pressure. It was further recited that each rollers' contact pressure could be controlled for the purpose of maintaining the proper pressure despite differences in changes in shape and texture of the different rollers.

Claim 169 has been amended to indicate that each roller shape is identified by a separate designator. The control unit is able to select the contact pressure of each roller using that roller's designator. The discussion by the Examiner regarding the maintaining of a proper pressure, despite changes in shapes and textures of the different rollers again indicates that the combination of art cited and relied on does not teach, or suggest the variance of width of the roller strip while the printing couple is operating. The prior art teaches the maintaining of that strip width constant. Claim 169 is also believed to be patentable.

Newly added claim 170 recited that the width of the roller strip can be varied along the longitudinal axis of each roller. This is discussed, for example, at paragraph 032 of the Substitute Specification. The Examiner is invited to review that discussion.

During the review of the Substitute Specification, in the course of the preparation of this Amendment, two minor typographical errors were noted. Those are being corrected by the two replacement paragraphs. No new matter is being presented.

SUMMARY

Independent claim 166 and dependent claim 169 have been amended. New dependent claim 170 has been added. Two paragraphs of the Substitute Specification have been amended to correct minor typographical errors, without the introduction of any new matter.

It is believed that the claims which are now pending in this application are patentable over the prior art cited and relied on for the reasons set forth above. Allowance of the claims, and passage of the application to issue is respectfully requested.

Respectfully submitted,

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